2.8 Color Table / Caltrans Standard Colors

A. Introduction

The Caltrans color table contains 256 colors. Each color has an assigned numeric value, from 0 to 255. Each color is made up of a designated percentage of red, green and blue (RGB value). Color table information is stored in each design file. Color 255 is used as the background color (usually black).

A color table file is an external file to MicroStation, but can be read to set each design files color table to a predetermined standard. Changes to color table values in each design file are immediate and are not dependant on the “Save Settings” command.

Colors are used for various reasons at Caltrans. Some of the reasons include; distinguishing between elements when viewing them in the monitor, enhancing plotting capabilities, masking elements, and to easily recognize and group similar type elements.

B. The Caltrans Color Table files

Caltrans has two standard color table files, one for Highway projects and one for Structure projects. The table below lists the two color table files.

Discipline	Name
Highway	ctcolor.tbl
Structures	stcol.tbl

In “ctcolor.tbl”, colors 1-127 are set to black (for black and white plotting/printing). Elements can be placed with colors 128-254 if needed for a color or a gray shade affect.

C. Standard Colors for Highway Projects

There are eight (8) colors that are standard for Highway projects. For each defined level, there is one assigned color (one of the 8 standard colors). The color assigned for each level is shown in section 2.4 - Drawing Data Levels. There are two levels that allow more than one color to be utilized, even though there is an assigned specific color, (see section 2.4 (C) Note 1 and 2).

The 8 standard color RGB values have been duplicated and assigned a different numeric value in order to reverse the plotting of information on either dropout or non-dropout levels. Colors with numeric values of 85-92 are defined in the Caltrans standard pen tables to allow the dropout of elements that are located on non-dropout levels. Colors with numeric values of 101-108 are defined to prevent the dropout of elements that are located on dropout levels. Section 5.9 of this manual describes and discusses the Caltrans pen tables.

The table below lists the 8 standard colors, the RGB values and the numeric values that can reverse how information on a level plots.

Color Number	Color Description (*)	RGB Value	Color Number to allow dropout of elements on non-dropout levels	Color Number to prevent dropout of elements on dropout levels
0	White	255, 255, 255	85	101
1	Blue	0, 150, 250	86	102
2	Green	0, 255, 0	87	103
3	Red	250, 0, 0	88	104
4	Yellow	250, 250, 0	89	105
5	Purple	130, 77, 191	90	106
6	Orange	250, 100, 0	91	107
7	Brown	185, 135, 85	92	108

(*) These are general visual color descriptions. Color descriptions supplied with MicroStation may be identical to the above, but the associated RGB values may not be the same.

D. Standard Colors for Right of Way

Color numbers 208 – 239 (within the Caltrans color table file “ctcolor.tbl”) have been designated for Right of Way mapping products. Color numbers 250 and 251 allow for special plotting functions for Surveys and Right of Way Engineering cells.

Color numbers 208 – 223 allow Right of Way map elements to be grouped by similar color. These colors are for monitor display purposes only. The final product will be plotted black.

Color numbers 224 –239 are to be used for parcel coloring, topo and relinquishment hatching. These colors will remain in color when plotted.

The table below shows the color number, color description, RGB value and the associated Right of Way map groups used by Right of Way Engineering.

Color Number	Color Description (*)	RGB Value	R/W Map Element Groups	Plot Results
208	dark blue	25, 55, 255	Landnet Elements	Elements will be plotted in black
209	blue	75,155,255		
210	light blue	125,255,255		
211	dk. lavender	145,40,140	New Temporary Easements	
212	med lavender	171,93,178		
213	lt. lavender	198,146,216		
214	pale lavender	255,200,255		
215	dark green	0,125,0	Existing Elements	
216	med green	0,190,0		
217	green	0,255,0		
218	red	230,0,75	New Elements	
219	pink	242,92,152		
220	light pink	255,185,230		
221	dk. rust brown	190,100,50	Landnet Elements	
222	rust brown	222,150,25		
223	lt. rust brown	255,200,0		
224	light yellow	252,253,195	Excess Land Parcels	Parcel coloring, topo and hatching will be plotted in color
225	light gray	170,170,170	Topo **	
226	pink	255,180,255	Parcel Areas	
227	light green	200,255,170		
228	light lavender	208,227,255		
229	light blue	200,255,255		
230	light orange	255,208,156		
231	tan	219,194,172		
232	dark gray	100,100,100	Relinquishment Hatching	
233	green	36,255,0	Parcel Areas	
234	aqua blue	72,209,204		
235	bright blue	36,255,255		
236	orange	255,146,38		
237	brown	182,109,38		
238	lavender	182,146,255		
239	bright pink	255,73,255		
250	black	20,20,20	Masking	
251	white	255,255,255	Outlining the Mask Area	

(*) These are general descriptions of colors customized for Right of Way Engineering use.

(**) Topography on Right of Way map products is not to be dropped out when plotted.

E. Standard Colors for Structures

The standard Structures color table is “stcol.tbl”. The assigned color number for each level (1-63) is the same as the level number. This means that a color having a specific RGB value may have more than 1 color number associated with it (example color number 14 and 23).

The table below shows the standard color numbers and levels, color descriptions and RGB value.

Color Number and Level	Color Description (*)	RGB Value
1	blue	0, 0, 255
2	purple	160, 32, 240
3	green	0, 255, 0
4	orange	255, 165, 0
5	light slate blue	132, 112, 255
6	medium spring green	0, 250, 154
7	pink	255, 192, 203
8	cyan	0, 255, 255
9		185, 185, 185
10	white	255, 255, 255
11		185, 185, 185
12	green	0, 255, 0
13	red	255, 0, 0
14	yellow	255, 255, 0
15	thistle	216, 191, 216
16	hot pink	255, 105, 180
17	cyan	0, 255, 255
18	honeydew	240, 255, 240
19	light blue	173, 216, 230
20	aquamarine	127, 255, 212
21	cornflower blue	100, 149, 237
22	orange	255, 165, 0
23	yellow	255, 255, 0
24	tan	210, 180, 140
25	light grey	211, 211, 211
26		185, 185, 185
27		185, 185, 185
28		185, 185, 185
29		185, 185, 185
30	burlywood	222, 184, 135
31	peru	205, 133, 63

Color Number and Level	Color Description (*)	RGB Value
32	saddle brown	139, 69, 19
33	brown	165, 42, 42
34	dark goldenrod	184, 134, 11
35	chocolate	210, 105, 30
36	coral	255, 127, 80
37	magenta	255, 0, 255
38		185, 185, 185
39		185, 185, 185
40	white	255, 255, 255
41	steel blue	70, 130, 180
42	cadet blue	95, 158, 160
43	medium violet red	199, 21, 133
44	light pink	255, 182, 193
45	dark orange	255, 140, 0
46	azure	240, 255, 255
47	pale green	152, 251, 152
48	dark sea green	143, 188, 143
49	khaki	240, 230, 140
50	light coral	240, 128, 128
51	deep sky blue	0, 191, 255
52	salmon	250, 128, 114
53	dark khaki	189, 183, 107
54	peach puff	255, 218, 185
55	medium sea green	60, 179, 113
56	firebrick	178, 34, 34
57	dodger blue	30, 144, 255
58	dark orange	255, 140, 0
59	pale turquoise	175, 238, 238
60	white	255, 255, 255
61	yellow	255, 255, 0
62	red	255, 0, 0
63	white	255, 255, 255
64 - 254		185, 185, 185
255 **	black	0, 0, 0

(*) These are the color descriptions and RGB values supplied with MicroStation.

(**) Color 255 is used as the background color (usually black).

Note: A RGB value of 185, 185, 185 signifies an undefined color.